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(19) (CA) **CANADIAN PATENT** (12)

(54) Chair with Specially Shaped Elbow Support

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ABSTRACT

A chair is provided with arm rests which are used exclusively as elbow supports. The arm rests are adapted to the size of an elbow. Each elbow support is adjustable vertically and horizontally. The horizontal adjustment is accomplished by a series of disks pivotally connected at horizontal axis to the elbow support .

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The present invention relates to a chair adapted to provide support to the arms of a seated individual. Specifically, the invention relates to a chair that provides support for a typist, or other worker's arms. An elbow support is provided that is adjustable horizontally and vertically.

Heretofore, there have been numerous chairs with arm rests. However, the previous arm rests have not been adjustable to an individual and particularly, have not been adjustable to support a worker's elbow.

The present invention provides a chair with an elbow support to provide a comfortable work environment. Previous chairs have not sufficiently supported a worker's arm when typing, working at a computer, etc. The present invention will eliminate the fatigue associated with the previous chairs.

In a preferred embodiment, a swivel chair is provided with an arm rest which is used exclusively as an elbow support. These elbow support can adjust horizontally and vertically. Specifically, the elbow support is provide as telescopically adjustable vertically and pivotally adjustable horizontally. The pivotal horizontal adjustment is accomplished by a series of disks interconnected at pivot point.



The invention will will become more apparent from the following detailed description, when read in conjunction with the accompanying drawings.

5 Figure 1 illustrates a swivel chair and arm rests in accordance with the present invention.

 Figure 1a illustrates a top view of the elbow support in accordance with the present invention.

 Figure 2 illustrates a side view of the elbow support in
10 accordance with the present invention.

 Figure 3 illustrates a front view of the elbow support in accordance with the present invention.

 Figure 4 illustrates a top view of the elbow support in accordance with the present invention.

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 A chair A in accordance with the present invention is shown at Figure 1. The chair A is differentiated from known chairs of the same type in that each arm rest 21 is exclusively used as an elbow support. Elbow support 21 is
20 adapted to the size of an elbow, between 10 and 18 centimeters ill diameter, and in the form of a circular bolster. Preferably, but not necessarily, elbow support 21 is 15 centimeters in diameter. Elbow support 21 may also be in the form of a trough open on one side.

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As shown in Figure 1, elbow support 21 is fastened on a substantially tubular support stay 22. Tubular support stay 22 allows the elbow support 21 to rotate about a substantially vertical axis 23, preferably, but not necessarily, over a range of 360° .

As shown in Figure 1a, axis 23 lies outside the center of the elbow support.

The elbow support 21 is vertically adjustable by telescopic connection 24. The connection 24 would be arrestable as is well known in the art. Each support stay 22 is horizontally pivotable on an axis lying below the chair sitting surface 25. This adjustment is preferably, but not necessarily, located in the vicinity of the main chair axis 26.

Arm rest support tube 1, shown in Figures 2 and 3, is a substantially rectangular tube. Arm rest support tube 1 receives bearing tube 4 which rotatably seats shaft end 3. Shaft end 3 forms a first axis a. On the upper

side of shaft end 3, a first mounting plate 5 is fastened at a first end by spacers 3' and 3". At the second end of plate 5, shaft 7 forms a second axis b. On shaft 7, a second mounting plate 8 is pivotally fastened. Shaft 7 is essentially a rivet with rivet heads 7'.

5 At the second end of second mounting plate 8, shaft 10 forms a third axis c to which the arm rest 21 is pivotally fastened. Shaft 10 is similar to shaft 7 in that it is essentially a rivet with heads.

10 A bearing 6 separates first mounting plate 5 and second mounting plate 8. Bearing 9 similarly separates second mounting plate 8 and arm rest 21. Bearings 6 and 9 permit mounting plates 5 and 8 to easily pivot.

The distances between axes a and b and axes b and c are preferably between 30 millimeters and 60 millimeters. The preferred distance is 40 millimeters with the respective distances being substantially equal.

15 Arm rest 21 comprises a covering plate 11 which is mounted to shaft 10. Covering plate 11 is attached by nuts 12 to plate 13. Plate 13 is preferably, but not necessarily, plywood. Bolstering material 14 covers plate 13 so that preferably a unilaterally open, elongated supported trough is formed. Material 14 forms the actual elbow support 21 which has a support surface adapted to the size of an elbow.

20 The arm rest support tube 1 is telescopically adjustable as shown in Figure 1. Each tube 1 may also be pivotally adjustable about a horizontal axis line below the chair seat 25 (not shown) as discussed previously. Figure 4 shows various positions of the elbow support 21 which are obtainable using the present invention. Reference line 16 corresponds to the starting position shown in Figures 2 and 3 in which axis a (shaft end 3) and axis c (rivet 10) are aligned. Intermediate positions are not shown.

25 Although there have been described what is at present considered to be preferred embodiments of the invention, it will be understood that various modifications and variations may be made therein, and it is intended to cover in the amended claims all such modifications as fall within the true spirit and scope of the invention.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A chair of the type including arm rests, wherein:

each said arm rest comprises an elbow support surface
adapted to the size of an elbow;

each said arm rest is adjustable to accommodate each
individual that uses said chair; and

each elbow support surface includes means for retaining
exclusively an individual elbow thereon.

2. The chair of claim 1, wherein:

each said arm rest is fastened on a substantially
tubular support stay and is rotatable about said tubular
support stay about a substantially vertical axis.

3. The chair of claim 2, wherein:

each said arm rest has an axis of rotation; and
each axis of rotation lies outside the center of each
said elbow support surface.

4. The chair of claim 2, wherein:

each said elbow surface is adjustable with respect to
height.

5. The chair of claim 4, wherein:

said elbow support surface is adjustable by
telescopically receiving said tubular support stay.

6. The chair of claim 2, wherein:

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each said elbow support surface is adjustable laterally.

7. The chair of claim 1, wherein:

each said elbow support surface is substantially a circular bolster with a diameter between 10 and 18 centimeters; and

said bolster includes a depression in the center thereof which comprises said means for retaining an elbow.

8. The chair of claim 1, wherein:

each said elbow support surface is in the form of a trough laterally open on one side which defines said means for retaining an elbow.

9. The chair of claim 1, wherein:

each said arm rest is rotatably fastened about at least two vertical axes.

10. The chair of claim 1, wherein:

each said arm rest is rotatably fastened by at least three vertical axes.

11. The chair of claim 10, wherein:

a first axis of said three vertical axes is formed by shaft and pivoted in an arm support rest arm rest support;

a first mounting plate is horizontally pivotally fastened at one end to said shaft;

a second axis of said three vertical axes is formed by a shaft fastened to a second end of said first mounting plate;

a second mounting plate is pivotally, horizontally fastened at one end to said shaft;

a third axis of said three vertical axes is formed by a second shaft pivotally fastened at a second mounting plate; and

said arm rest is pivotally fastened to said second shaft.

12. The chair of claim 11, wherein:

said first and second mounting plates are provided with a bearing between said plates.

13. The chair of claim 12, wherein:

said second mounting plate and said arm rest are provided with a bearing therebetween.

14. The chair of claim 10, wherein:

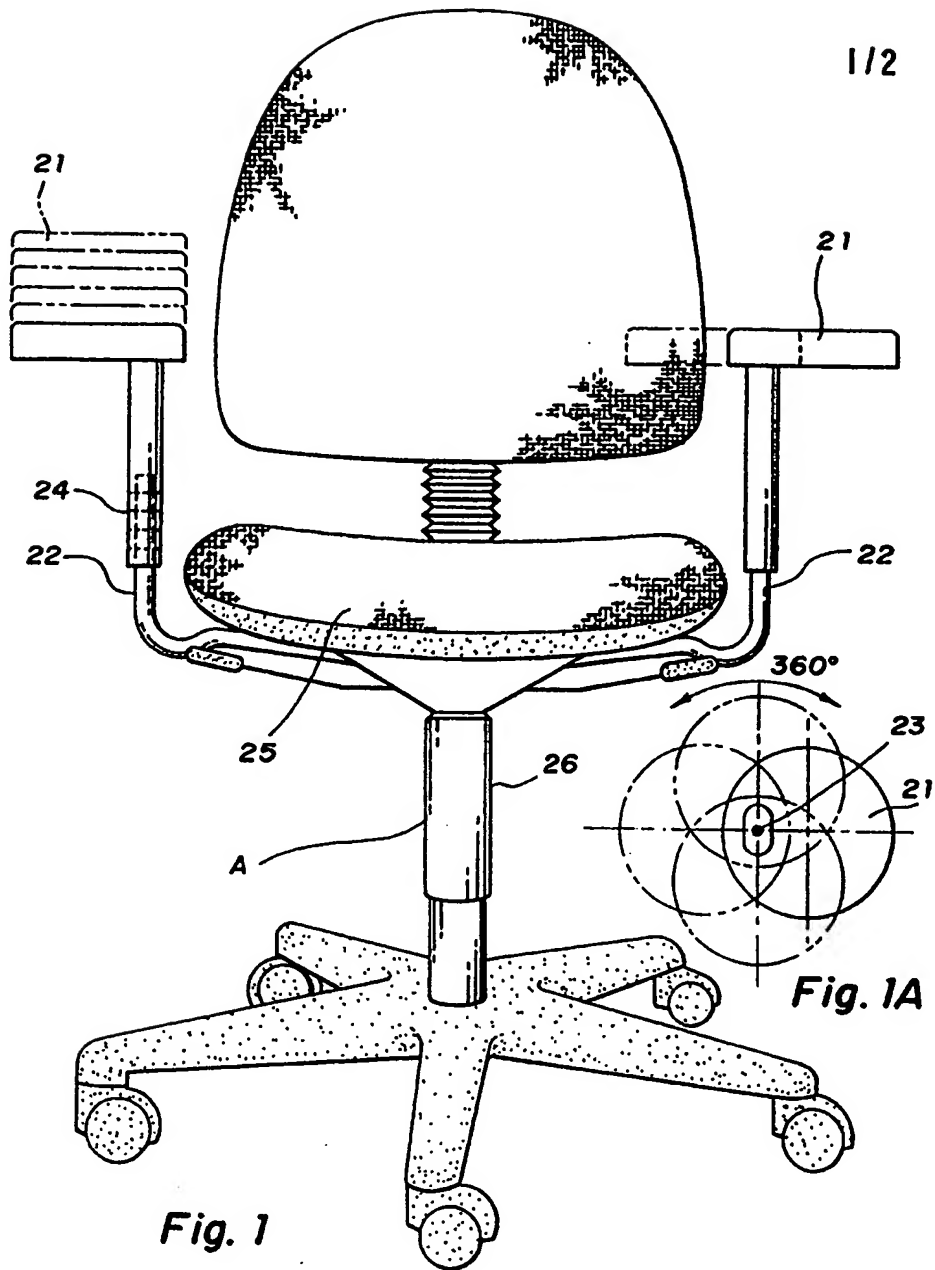
the axial distance between said first axis and said second axis and said second axis and said third axis is between 30 and 60 millimeters.

15. The chair of claim 10, wherein:

the axial distance between said first axis and said second axis and said second axis and said third axis are of substantially equal length.



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